

REMARKS

Claims 1-3, 6-16 and 22 are pending in this application. By this Amendment, claim 1 is amended to incorporate prior claim 5 therein in order to address the teachings of WO 190 as discussed further below, and is amended to remove the previously added limitations regarding the amount of water-repellent agent. New claim 22 is added to retain the limitations removed from claim 1. Further, claims 4 and 5 are canceled, and claims 6 and 7 are amended to update dependency.

In view of the foregoing amendments and the following remarks, reconsideration of this application is respectfully requested.

I. Rejections Under 35 U.S.C. §103(a)

A. Relying Upon WO 190 Alone

Claims 1, 3, 4 and 6-16 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over WO 89/06190 (hereinafter WO 190). This rejection is respectfully traversed.

Applicants note that claim 5 was not rejected relying upon the teachings of WO 190 alone. Claim 5 has been incorporated into claim 1 as discussed above. Accordingly, this rejection is believed to be overcome, and reconsideration and withdrawal of this rejection are respectfully requested.

B. WO 190 in View of WO 108 or Jakob

Claim 5 was rejected as allegedly being unpatentable over WO 190 in view of WO 92/01108 (hereinafter WO 108) or an article by Jakob et al. (hereinafter Jakob). This rejection is respectfully traversed.

As noted above, claim 5 has been incorporated into claim 1.

In the Office Action, the Patent Office alleged that it would have been obvious to one of ordinary skill in the art to have used the treating agents described in WO 108 or Jakob in

the process described in WO 190 to have arrived at the method of claim 1. Applicants respectfully submit that one of ordinary skill in the art would not have been led to have combined the teachings of the references as alleged in the Office Action.

WO 190 describes a ballistic-resistant composite article comprising one or more layers of a network of high strength filaments in a matrix material. See the Abstract. The matrix material may be coated onto each individual filament. See page 19, line 30 to page 20, line 17. The coated filaments may then be formed into a composite comprised of the filaments embedded in the matrix material by aligning the filaments into a parallel configuration and evaporating the solvent of the matrix coating. See page 22, line 8 to page 23, line 21.

WO 108 describes improving the hydrolytic resistance of aramid fiber by coating the fiber with a fluoropolymer dispersion comprising a fluorinated alkyl methacrylate polymer. See the Abstract and page 2, lines 4-17. Jakob describes aramid fabrics that have been treated by scouring followed by application of a water-repellent fluoropolymer. See the Abstract.

Among the innumerably large list of possible matrix materials described in WO 190, mention is made of fluoroelastomers at page 16, line 29. The Patent Office has relied upon this mention as the basis for the rejection. Specifically, the Patent Office alleges that although the fluoroelastomers mentioned in WO 190 are not fluoroacrylates, one of ordinary skill in the art would have found it obvious to have used the allegedly similar fluoroacrylate materials described in WO 108 or Jakob in WO 190, thereby achieving the method of claim 1. Applicants disagree.

First, WO 190 requires the aramid filaments described therein to be coated with a matrix material in which the filaments will be embedded in the composite. At page 16, lines 5-8, WO 190 describes that the major criterion for the matrix material is that it hold the filaments together to maintain the geometrical integrity of the composite under the desired

use conditions. WO 190 thus requires use of a coating that will ultimately form a matrix in which the filaments will be embedded and held. WO 108 and Jakob, on the other hand, do not describe matrix materials, but instead merely describe hydrolytic resistance (WO 108) or water-repellent (Jakob) treatment agents that may be applied to the surface of aramid fibers. Nothing in either WO 108 or Jakob teaches or suggests that the treatment agents described therein may be used as matrix materials as required in WO 190. Accordingly, Applicants do not agree that one would have found it obvious to have used the treatment agents of WO 108 or Jakob as the matrix material in WO 190.

Second, WO 190 describes that the matrix material should be a low modulus elastomer, and mentions fluoroelastomers in this context. See page 16, lines 9-31 of WO 190. The treatment agents described in WO 108 and Jakob, on the other hand, are not elastomers. That is, the fluorinated alkyl methacrylate polymer of WO 108 and the water-repellent fluoropolymer of Jakob are not elastomeric or rubber-like at all as required of the fluoroelastomer matrix materials mentioned in WO 190.

Thus, the fluoroelastomers mentioned for use in WO 190 are both technically (matrix material in WO 190 versus hydrolytic treatment agent in WO 108 or water-repellent treatment agent in Jakob) and chemically (elastomeric in WO 190 versus non-elastomeric in WO 108 and Jakob) different from the treatment agents described in WO 108 and Jakob. As such, one of ordinary skill in the art would not have found it obvious to have combined the teachings of the references in the manner alleged by the Patent Office.

For the foregoing reasons, Applicants respectfully submit that none of WO 190, WO 108 or Jakob, alone or in combination, would have led one of ordinary skill in the art to the method of claim 1. Reconsideration and withdrawal of this rejection are respectfully requested.

C. WO 190 in View of Kwolek

Claim 2 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over WO 190 in view of U.S. Patent No. 3,671,542 (hereinafter Kwolek). This rejection is respectfully traversed.

Kwolek was relied upon as allegedly teaching providing an aramid yarn via a spinning process. However, Applicants submit that even if Kwolek were to have been combined with WO 190 in the manner alleged in the Office Action, the method of claim 1 still would not have been achieved. This is because Kwolek remedies none of the deficiencies of WO 190 discussed extensively above.

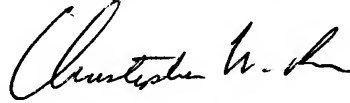
For the foregoing reasons, Applicants submit that neither WO 190 nor Kwolek, alone or in combination, would have led one of ordinary skill in the art to the method of claim 1 or claims dependent therefrom. Reconsideration and withdrawal of this rejection are respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3, 6-16 and 22 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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